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On Granularity in Information Systems Based on Binary Relation

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Author(s)

Weihua Xu, Shihu Liu, Xiaoyan Zhang, Wenxiu Zhang

ABSTRACT

In this paper, some important issues of granularity are discussed mainly in information systems (ISs) based on binary relation. Firstly, the vector representation method of knowledge granules is proposed in an information system based on binary relation to eliminate limitations of set representation method. Secondly, operators among knowledge granularity are introduced and some important properties of them are studied carefully. Thirdly, distance between two knowledge granules is established and granular space is constructed based on it. Fourthly, axiomatic definition of knowledge granularity is investigated, and one can find that some existed knowledge granularities are special cases under the definition. In addition, as an application of knowledge granular space, an example is employed to validate some results in our work.

KEYWORDS

Binary Relation, Granular Space, Information System, Rough Set

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